UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,467	03/28/2001	Clifton W. Wood JR.	MI40-326	6353

21567 7590 04/04/2005

WELLS ST. JOHN P.S.
601 W. FIRST AVENUE, SUITE 1300
SPOKANE, WA 99201

EXAMINER	
HYUN, SOON D	
ART UNIT	**PAPER NUMBER**
2663	

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/820,467	WOOD, CLIFTON W.	
	Examiner	Art Unit	
	Soon D Hyun	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 March 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *41-124* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *84,97-113 and 119-122* is/are allowed.

6)☒ Claim(s) *41-59,61-79,81-83,85,87-96,114-118,123 and 124* is/are rejected.

7)☒ Claim(s) *60,80 and 86* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *03/28/2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 44-84 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1-3 of U.S. Patent No. 6,275,476. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-3 of U.S. Patent Number 6,275,476

encompass the limitations of claims 44-84 of the instant application. Moreover, omission of a reference element whose function is not needed would be obvious to one or ordinary skill in the art. It is well settled that the omission of an element(s) and its functions is an obvious expedient if the remaining element perform the same function as before In re Karlson, 163 USPQ 184 (CCPA 1963). Also note Ex parte Rainu,168 USPQ 375 (Bd. App. 1969).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 41 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Snodgrass et al (U.S. Patent No.5,500,650).

Regarding claim 41, Snodgrass et al discloses a method of establishing wireless communications (col. 8, lines 21-24 and FIG. 2, 3) between an interrogator (commander station 10 in FIG. 1) and individual multiple wireless identification devices (responder stations 36 and 40 in FIG. 1), the method comprising combining tree search (col. 22, lines 9-19) and Aloha techniques (col. 4, lines 17-18, the several responder stations connected to a common medium 32 in FIG. 1 access to the medium simultaneously to communicate with the commander station, therefore, Aloha techniques are used).

Regarding claim 43, Snodgrass further discloses that the wireless identification device comprises an integrated circuit (FIG. 1 and 3) including a receiver (170), a modulator (164, col. 9, lines 53-54), and a microprocessor (microsequencer 42, col. 6, lines 36-44) in communication with the receiver and modulator.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 44-59, 61-79, 81-83, 85, 87-96, 114-118, 123, and 124 are rejected under 35 U.S.C. 103(a) as being unpatentable over Snodgrass et al in view of Applicant Admitted Prior Art (AAP).

Regarding claims 44-47, 53-56, 61-64, 66-68, and 75, refer to the discussion for the claim 41.

Snodgrass discloses a method of addressing messages from an interrogator (commander station 10 in FIG. 1) to a number of communication devices (responder stations or RFID devices 36 and 40), the method comprising:

establishing a first predetermined number of bits to be used as unique identification numbers, and establishing for respective devices unique identification numbers respectively having the first predetermined number of bits (step a of claim 9);

establishing a second predetermined number of bits to be used as random values (arbitration addresses of claim 9 or a set of possible addresses of claim 18, col. 13, lines 41-42, step b of claim 9, step A of claim 18);

causing the devices to select random values, wherein each device chooses a random value (an arbitration address) independently of random values selected by the other devices (step e of claim 9);

transmitting a command (an identification request message of claim 9 or a first polling message of claim 18) from the interrogator requesting devices having random values within a specified group of random values to respond, the specified group being less than or equal to the entire set of random values (step d of claim 9, col. 26 or step D of claim 18);

receiving the command at multiple devices, the devices receiving the command respectively determining if the random value chosen by the command falls within the specified group and, if so, sending a reply (an arbitration identification address) to the interrogator (step f of claim 9), if not sending a reply (col. 25, line 10-13); and

determining with the interrogator if a collision occurred between devices that sent reply and if so, creating a new, smaller, specified group (col. 13, lines 51-65 or step F of claim 18).

Snodgrass further discloses that the several responder stations connected to a common medium 32 in FIG. 1 access to the medium simultaneously to communicate with the commander station, therefore, Aloha techniques are used (col. 4, lines 17-18).

However, Snodgrass et al (Snodgrass) does not explicitly teach that the Aloha techniques comprise slotted Aloha (an adaptive Aloha method of claim 47), wherein each responder station sends the reply to the interrogator within a randomly selected time slot of a number of slots.

The Applicant Admitted Prior Art (AAP), specification page 4, lines 16-22, discloses that a slotted Aloha scheme is an arbitration scheme which is well known in the art to reduce collisions, wherein each communication device is able to access to a common medium within a single randomly selected time slot. Therefore, it would have been obvious to one having ordinary skill in the art to incorporate the slotted Aloha arbitration scheme of the AAP into Snodgrass to improve transmission efficiency with less collision than a pure Aloha.

Regarding claim 48 and 69, AAP (Specification page 5, lines 1-4) further discloses that a plurality of time slots are used for slotted Aloha. It will be apparent that a number of time slots are based on a maximum number of responder stations to access the common medium simultaneously. Therefore, it would have been obvious to one having ordinary skill in the art to use four time slot Aloha if no unexpected results can be seen fro the use of four time slots.

Regarding claim 49, 50, and 70-72 Snodgrass further teaches the step of sending a reply to the interrogator comprises transmitting the unique identification number and the random value of the device sending the reply (step f, ii of claim 9).

Regarding claims 51, 57, and 73, Snodgrass further teaches that after receiving a reply without collision from a device, the interrogator sends a command individually addressed to the device (FIG. 10, step 232).

Regarding claim 59 and 76, refer to the discussion for claim 48.

However, Snodgrass et al (Snodgrass) does not explicitly teach that the number of bits for the first and second, respectively would be 16. It will be apparent that a number of bits used for identification are based on a maximum number of responder stations used simultaneously in the system. Therefore, it would have been obvious to one having ordinary skill in the art to use 16 bits for identification if no unexpected results can be seen from the use of 16 bits.

Regarding claim 65, refer to the discussion for claims 43 and 44.

Regarding claim 74, it is an Official Notice that a random number is used for randomly selecting a time slot in the slotted Aloha scheme. Therefore, the random number is different from the random value of the device.

Regarding claim 77, refer to the discussion for claims 51 and 74.

Regarding claim 78, refer to the discussion for claims 48, 51, and 74.

Regarding claim 79, refer to the discussion for claims 51, 56, and 74.

Regarding claim 81, refer to the discussion for claims 44 and 74.

Regarding claim 82, refer to the discussion for claims 44, 48, and 74

Regarding claim 83, refer to the discussion for claims 44, 56, and 74

Regarding claim 85, Snodgrass discloses a method comprising the steps of:

sending a first command (IDCG command, step 212 of FIG. 10) to a plurality of wireless identification devices (RFID devices 36 and 40 in FIG. 1) to select a first subset of the plurality of wireless identification devices in accordance with an arbitration scheme (col. 13, lines 29-32), the first subset associated with a first branch of a search tree corresponding to a tree search scheme (col. 16, lines 19-24), the first command requesting each of the plurality of wireless identification devices of the first subset to respond simultaneously (col. 13, lines 43-46); and

sending a second command (step 228 of FIG. 10) to the plurality of wireless identification devices to select a second subset of the plurality of wireless identification devices in accordance with the arbitration scheme (col. 13, lines 59-65), the second subset associated with a second branch of the search tree corresponding to the tree search scheme (col. 16, lines 19-24), the first command requesting each of the plurality of wireless identification devices of the second subset to respond in an independently selected one of a plurality of time slots in accordance with an Aloha scheme (see discussion for claim 44).

Regarding claims 87 and 88, refer to the discussion for claims 44 and 85.

Regarding claim 89, Snodgrass further teaches a third command (step 232 of FIG. 10) as recited in the claim.

Regarding claim 90, Snodgrass further teaches that the third command comprises a mask as recited in the claim (col. 16, lines 19-32).

Regarding claim 91, Snodgrass further teaches that the first and second commands each comprise a mask and a value to be used to select a portion of an

identification number stored in each wireless identification device for comparison to the value (col. 16, lines 19-32).

Regarding claim 92, Snodgrass further teaches that the mask indicates a bit length of the value (col. 16, lines 44-47).

Regarding claim 93, Snodgrass further discloses that the mask corresponds to a level of the search tree, and the value corresponds to a subset of within the level of search tree (col. 16, lines 19-26 and col. 18, lines 2-15).

Regarding claims 94 and 95, Snodgrass further discloses that the mask is applied bitwise to the identification number to select the portion of the identification number (col. 17, lines 39-60).

Regarding claim 96, it is inherently required that the signals from the interrogator to the responder stations indicates a beginning of each of time slot when the system uses the slotted Alhoa such that the responder stations could access to each time slot.

Regarding claims 114, Snodgrass discloses a wireless identification device comprising:

a receiver (170 in FIG. 3) to receive a first command (IDCG command, step 212 of FIG. 10) comprising a first mask and a first value associated with a search tree of a tree search scheme, the first mask indicating a bit length of first value (col. 16, lines 19-32);

a memory (64 in FIG. 3) to store an identification number (an arbitration number, col. 13, lines 42-43), a first portion of the identification number to be selected using the

first mask and to be compared to the first value in response to receiving the first command in accordance with the tree search (col. 16, lines 19-43); and

a transmitter (164 in FIG. 3) to transmit a first response(step 220 of FIG. 10) in independently selected one of a plurality of time slots in accordance with an Aloha scheme (see the discussion for claim 44) if it is determined that the first portion of the identification number is equal to the first value (col. 16, lines 34-36).

Regarding claims 115-118, Snodgrass further discloses that the receiver is to receive a second command (step 228 of FIG. 10) and second response (step 220 of Fig. 10) as recite in the claims (col. 16, lines 34-43).

Regarding claim 123, Snodgrass discloses an interrogator (commander station 10 in FIG. 1) comprising:

a transmitter circuit (118 in FIG. 2) to send a command (IDCG command, step 212 of FIG. 10) comprising a mask and a value (col. 16, lines 19-32) to a plurality of RFID devices (36 and 40 in FIG. 1) to select a subset of the RFID devices associated with a branch of a search tree in accordance with a tree search scheme (col. 16, lines 19-43), the mask indicating a bit length of the value (col. 16, lines 19-32); a receiver circuit (124 in FIG. 2) to receive a plurality of responses from the subset of RFID devices (FIG. 10); a collision detection circuit (col. 13, lines 51-52).

For coordination pulses, refer to the discussion for claim 96.

For the slotted Aloha, refer to the discussion for the claim 44.

However, Snodgrass does not explicitly teach that the interrogator send the acknowledge signal if a response is received without collision. It is an Official Notice that the acknowledge signal is used in an Aloha scheme.

Regarding claim 124, refer to the discussion for claims 44 and 123.

Allowable Subject Matter

7. Claims 84, 97-113, and 119-122 are allowed.

Claims 60, 80, and 86 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter,

The prior of record fails to teach that the number of possible time slots varies from on specified group to another as recite din claims 60, 80, 97, and 119.

The prior of record fails to teach a method of skipping one level of the search tree as recited in claim 86.

The prior of record fails to teach a method of selecting on time slot from the first number of time slots for first subset and the second of time slots for the second subset as recited in claim 97.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Soon D Hyun whose telephone number is 571-272-3121. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Q. Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Hyun
03/28/2005

RICKY NGO
PRIMARY EXAMINER
3/31/05